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UNIVERSITY OF TORONTO

REPORT OF THE DEAN  
OF THE  
FACULTY OF MEDICINE

SESSION 1934-1935

THE UNIVERSITY OF TORONTO PRESS

# UNIVERSITY OF TORONTO

## FACULTY OF MEDICINE

*Toronto, June 30th, 1935.*

*To the Graduates in Medicine of the University of Toronto:*

*The Annual Report of the Dean of the Faculty of Medicine for the Session 1934-35 is sent to you with cordial greetings and good wishes of the Faculty of Medicine.*

*J. G. FitzGerald, M.D.,  
Dean.*

# REPORT OF THE DEAN OF THE FACULTY OF MEDICINE

(J. G. FITZGERALD, M.D., LL.D.)

During the academic session which closed on June 30th, 1935, much satisfactory work has been accomplished in the Faculty of Medicine in both the fields of Medical Research and teaching.

Forty-eight years have passed since, in 1887, this Faculty was established.

Momentous changes have taken place in Medicine in this University during that period. The length of the course has been increased from three to six years. A session now consists of eight months: in 1887 it was only six. At the outset, there were no whole-time teachers, or research workers in the medical sciences: these now number more than one hundred.

At present, there are eight laboratory departments in this faculty. Their staffs are concerned solely with teaching and research. The four major clinical departments have more whole-time personnel to-day than in the entire Faculty of Medicine twenty-five years ago.

New departments have been created. These include Medical Research, Hygiene and Preventive Medicine, Biochemistry, Paediatrics, Pathological Chemistry, Psychiatry, Radiology, and the Medical Art Service. In all of these, there are elaborate facilities and resources, both in personnel and material, which have been made available for the advancement of medical knowledge, and the conduct of medical teaching.

It is impossible here to explore in detail the significance and consequences of all the forward steps taken in these years, but it is pertinent to enquire whether, as a result, we train better doctors, or train doctors better. Is the raw material which enters the Faculty of Medicine suitable for "processing"? Do we admit the number appropriate for our present

resources in clinical and laboratory facilities? Perhaps the answers to these questions are likely to be opinions rather than facts—speculations of little practical value. However, there are certain points upon which there seems to be very general agreement.

First—it now requires much more time and money to train a medical practitioner than it did fifty years ago. Second—the community is expected to contribute much more largely than formerly, to the sum required for this longer preparation. It is immaterial whether this money comes through the state, or in the form of interest on endowment—the community must provide the funds.

This being true, is it not desirable to establish more satisfactory methods for the selection of students; to choose those who are most likely to make an adequate return to society for the assistance which has thus been afforded them? Furthermore, should they not be socially-minded and show some aptitude for the study and practice of modern medicine? And finally, and most essential, this, give evidence of possessing those certain traits of character without which no man, or woman, can hope to become a successful practitioner of medicine?

The present methods of admission to this Faculty, without limitation or selection, except by the possession of academic qualifications, cannot, by any stretch of the imagination, be regarded as adequate or satisfactory criteria. This situation surely calls for drastic revision. We have too many medical undergraduates, and the obstacles in the way of their rejection or elimination constitute a case for reform.

To bring this about, the Faculty of Medicine is prepared to assist and collaborate to the fullest extent in any plan deemed suitable and worthy of trial.

The total registration for the session was 842, of whom 26 were graduate and 816 undergraduate students.

Grateful acknowledgment is again tendered Sir Frederick Banting, Professor C. H. Best and the Connaught Laboratories for assistance from the Medical Research Banting Fund, the Medical Research Best Fund, and the Connaught Laboratories research funds, towards the support of work carried on



in various departments of this Faculty, formerly supported by appropriations for the Committee for Experimental Research in Medicine. This most generous recognition of the pressing needs of certain departments, is further evidence, if such is necessary, of the fine spirit of cooperation manifest in this Faculty. In the reports of the heads of several departments reference is made to the helpful relationship obtaining between various departments. It is to be hoped that this spirit will continue to animate those responsible for the direction of all departments. Only thus will it be possible to maintain the excellent team work and coordination of activities and interests so evident at the present time.

The members of this Faculty appreciate highly the successful efforts of the President and Board of Governors to lessen the salary deductions levied upon members of the staff in recent years. The imperative necessity of husbanding the substantially diminished university income of the last three years has been thoroughly understood, and members of the teaching staff have been most anxious to assist in the times of financial stress through which nearly all institutions have passed. It is hoped that in the near future there may be further substantial improvement in the situation.

Sir Frederick Banting, in his report upon the work of the Department of Medical Research, makes reference to the very generous gift of \$20,000 contributed by the Ontario Mining Association for the continued support of the work on silicosis being carried on under his direction,—work furthermore of a very fundamental and highly important character and referred to only very briefly in the report of the Department of Medical Research. The provision of funds for the support of research in all fields of medical science is one of the best possible investments for the individual or the community. This fact is being more generally recognized year by year.

A very unusual and unique step was taken this year by the undergraduate Medical Society. It is novel, at least as far as this University is concerned, and so may here be appropriately referred to in some detail. A regulation of the Board of Governors requires that every student proceeding to a doctor's degree in the Faculty of Medicine is required to pay to the

Bursar at the opening of the session an annual fee of \$3.00 for the maintenance of the Medical Society. The administration of the funds thus obtained is entrusted to the elected representatives of the Medical Society—the Executive. Because of the fact that the money is wisely expended and the modest resources husbanded, there has always been, in recent years, a surplus on operations. The Executive Committee of the Society, at the suggestion of Dr. J. W. Magladery (a distinguished member of the graduating class) proposed that a vote of the Medical Society should be taken to ascertain whether the majority of members approved of a proposal to utilize the surplus to set up a Bursary Fund to aid worthy students in need of financial assistance. The vote was taken. Very great interest was manifested in the question; more than 80 per cent. of students voted, and there was almost unanimous approval of the proposal. As a result, a formal communication was received by the Faculty and submitted to the Board of Governors, in which this most generous action of the medical undergraduates was outlined. It has been accepted with pleasure and gratitude. It will very usefully supplement the loan funds, bursaries, scholarships, etc., now available.

I desire to express the most cordial appreciation of the Faculty to the medical undergraduates in this University for the wisdom and generosity thus displayed.

More funds for Bursaries for deserving students of character, aptitude and ability who desire to study medicine but are unable to do so upon their own modest resources is a great need in this University. I wish to strongly recommend to friends of the University and of this Faculty in particular, the desirability of recognizing this need and providing for it in a truly generous fashion.

Outstanding events during the year included a visit from Sir Henry Dale, Director of the National Institute for Medical Research, who addressed a large meeting in Convocation Hall in October just after he had been made the recipient of the Honorary Degree of Doctor of Laws. In March, Professor James Ewing of New York, Charles Mickle Fellow for 1934, delighted an overflow audience in the North lecture room of the Medical building when he reviewed in an exceedingly com-



prehensive and interesting fashion the present position of the cancer problem. On Lister Day, April fifth, Professor Evarts Graham delivered the eighth Donald C. Balfour lecture in Surgery, on the subject of "Primary Carcinoma of the Lung or Bronchus".\* It was a splendid address and was enjoyed by a large audience assembled in Convocation Hall.

His Honour, the Lieutenant-Governor, again graciously invited the lecturer, the President of the University, certain members of the Senate and the Heads of Departments to lunch at Government House. This delightful occasion was greatly enjoyed and acknowledgment and warm thanks are here extended to His Honour. The lecture on this occasion was delivered at four o'clock in the afternoon, a change in time which enabled a great many more than usual to attend this interesting event.

The Faculty of Medicine expresses appreciation of the generous action of the Honourable the Minister of Health of the Province of Ontario, Dr. J. A. Faulkner, in providing for the establishment of the Faulkner Gold Medal in Psychiatry. This is to be awarded annually by the Senate on the recommendation of the Council of the Faculty of Medicine, to the physician who takes the highest standing in the examinations of the Post Graduate Course in Psychiatry, conducted under the direction of the Head of that Department. Thanks also go to the anonymous benefactor who most generously donated a sum of three thousand dollars for the endowment of a prize to be known as the "Perry Goldsmith Prize in Oto-Laryngology". This prize, consisting of the income derived from the above sum, may be awarded annually by the Senate upon recommendation of the Council of the Faculty of Medicine, to a graduate in medicine who, as a member of the staff in Oto-Laryngology of not more than ten years' duration, has made a worthy contribution to advance sound knowledge of this special field; the award shall be made upon the recommendation of the Head of the Department of Oto-Laryngology.

The generosity of Lambda Chi Alpha Alumni Association in providing in memory of one of its late members, Ronald S.

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\*Copies of the Balfour Lecture may be obtained on application at the Medical Office.

Saddington, M.B., B.Sc. (Med.), who died while engaged in research at the Rockefeller Institute for Medical Research, New York, a Gold Medal to be awarded to the student in the Fourth Year standing first in Pathology, is gratefully acknowledged.

Warm thanks are extended also to Professor and Mrs. W. B. Hendry for their generosity in contributing a sum of three thousand dollars for the endowment of the William John Hendry Memorial Scholarship in Obstetrics and Gynaecology. This scholarship has been established in memory of the son of the benefactors, the late William John Hendry, B.A., M.D., gold medallist in Medicine in 1933, whose tragic death in Baltimore while engaged in experimental work at the Carnegie Institution of Washington, was referred to in the report of the Dean of the Faculty of Medicine last year. The Scholarship is to be awarded annually to the student in the Sixth Year of the medical course who has obtained the highest standing in the final examinations in Obstetrics and Gynaecology. The award is to be made on the recommendation of the Head of that Department, an appointment held by Professor W. B. Hendry from 1922 until his resignation this year.

Thanks are also extended to the women of the congregation of the United Synagogue who have generously offered to provide an annual scholarship of the value of fifty dollars.

Finally, reference must be made to the provision of the John H. Copp Memorial Scholarship, provided from the fund collected in memory of the late John H. Copp, who at the time of his sad and untimely death was a student in this Faculty. It is intended that this scholarship shall be awarded to a student in the Fourth Year in Medicine. The award is to be based upon considerations of character, scholarship, athletic ability and general interest.

It is with satisfaction and sincere gratitude that the receipt of these benefactions are herein acknowledged.

The Charles Mickle Fellowship has this year been awarded jointly to Dr. Edward Mellanby and Mrs. May Mellanby in recognition of their contributions to our knowledge of rickets and to a better understanding of the dietetic factors responsible for perfect and imperfect teeth.



Members of the Faculty have been honoured by election to distinguished offices or made recipients of awards of merit. Sir Frederick Banting has been elected a Fellow of the Royal Society of London. He has also been awarded the Gold Medal in Therapeutics by the Court of the Royal Societies of Apothecaries, London. Professor C. H. Best has been elected a member of the Council of the American Physiological Society. Professor V. E. Henderson has been chosen as President of the Federation of American Societies for Experimental Biology. Professor W. E. Gallie delivered the Shattuck Lecture in Boston in June. Professor Oskar Klotz has been elected President of the Society for Experimental Pathology and President of the Academy of Medicine, Toronto.

The following members of the Faculty were honoured by the award of the King's Silver Jubilee Medal:—The Dean, Sir Frederick Banting, Professor C. H. Best, Professor C. B. Farrar, Professor Emeritus J. T. Fotheringham, Professor Duncan Graham, Dr. H. C. Parsons, Professor N. S. Shentone and Dr. H. A. Beatty, a former Professor on the staff in the Department of Surgery.

Dr. R. L. Noble, Ellen Mickle Fellow for 1934, has been awarded the Leverhulme Scholarship of the Royal College of Physicians of London, tenable at Middlesex Hospital Medical School. Dr. Noble, working with Professor E. C. Dodds in the Cortauld Institute of Biochemistry at the Middlesex, has made important discoveries in the investigation of the effect upon animals of extracts of the posterior pituitary gland. Dr. J. W. Magladery, of the class of 1935, has received a Rhodes Scholarship from Ontario.

Post Graduate Courses in Psychiatry, in Surgery, in Paediatrics and in Physical Therapy have been arranged and there is a very definite increase in interest manifested in such courses. The pressure of undergraduate teaching with a student body of more than eight hundred and often a paucity of clinical material, especially on the medical side, makes it extremely difficult to accomplish as much in the above direction as is admittedly desirable. As in the past, members of this Faculty participated in the extra-mural post-graduate courses given under the aegis of the Canadian Medical As-

sociation and of the Ontario Medical Association. In all sixty-one members contributed one hundred and nine lectures or addresses during the year.

This year marks the retirement of two very well known and highly respected members of this Faculty. Professor W. B. Hendry, from the Headship of the Department of Obstetrics and Gynaecology, to which he was appointed in 1922, and Dr. Samuel Johnston, who retires as Associate in Therapeutics in charge of Anaesthesia. For many years Professor Hendry has given loyal and distinguished service to this University in many capacities. As a teacher he was admired and held in high esteem. He served as Commanding Officer of No. 4 Canadian (University of Toronto) General Hospital with distinction and he was beloved by all ranks. He has taken an active and intelligent interest in the affairs of the University of Toronto Athletic Association and has been a warm supporter of the University Health Service. Professor Hendry has reached the age of retirement as a member of the Staff of the Toronto General Hospital. He will be greatly missed by his colleagues in this Faculty. He carries with him into retirement the warm affection, goodwill and best wishes of his associates in the Faculty of Medicine. Professor Hendry has been made Professor Emeritus of Obstetrics and Gynaecology. Dr. Samuel Johnston has given faithful and devoted service to the University in this Faculty for many years past. He is well known as a fine teacher and one deeply interested in the advancement of his specialty. Dr. Johnston was also active in other fields of community service. For a number of years he has been a valued member and executive of the Smoke Abatement Association. His many friends in the Faculty of Medicine extend to him cordial good wishes for the future, and I should like to express to Dr. Johnston much appreciation for the service he has rendered as a member of the Department of Therapeutics.

It is with the greatest possible pleasure and satisfaction that the members of the Faculty learned of Professor Andrew Hunter's appointment as Professor of Pathological Chemistry and Head of that Department, and as a Research Member of the Connaught Laboratories. Professor Hunter, a member of



this Faculty from 1915 to 1929, returns to Toronto in the autumn of 1935 and will be most warmly welcomed by a host of friends who are indeed delighted that after a sojourn of six years in the University of Glasgow, he will once more be one of us. Dr. Harold deW. Ball this year completes twenty years of loyal service as a member of the Department of Anatomy. I should like to extend to him thanks on behalf of the University for his long and faithful efforts as a part-time member of the staff, devoting his time and energies freely to the teaching of histology. Dr. Ball is a fine representative of those members of the medical profession who, on part-time appointments, receiving very modest honoraria, have given unsparingly of their time, ability and energy to serve this University. Many others who have rendered similar service may here be accorded grateful recognition.

The combined course in Arts and Medicine has been lengthened from seven to eight years. This is provided for in the following regulation adopted during the session, namely:—  
“A student who enrolls in the first year of the Honour Course in Biological and Medical Sciences in the Faculty of Arts in 1935 and thereafter and who graduates in this course with at least Third Class Honours, may enroll in the Third Year of the Medical Course and complete the requirements for the degree of Doctor of Medicine in a further period of four years”. This is in conformity with what obtains in the British Isles and the United States.

The College of Physicians and Surgeons of Ontario has ceased to conduct examinations. The College now requires, in lieu thereof, the certificate of the Medical Council of Canada, indicating that the holder of the same has passed the examination of the latter body. The College has also undertaken to accept certificates issued by approved “Private Schools” in Ontario in satisfaction of its requirements relating to matriculation, in lieu of Departmental certificates.

For some years it has been realized that the fees charged in the medical course were much lower than those in other universities. This year, because of the reduction in the University grant, the Board of Governors have increased the fees in all years. Even the new scale, however, is substantially



lower than in other schools, whose faculties and resources for the training of medical students are not equal to those possessed by the University of Toronto.

It is with sincere regret that the following deaths during the present year must be recorded:—Professor Emeritus N. H. Beemer, Dr. D. N. Maclellan, Professor Emeritus D. J. G. Wishart, Professor Emeritus Alexander McPhedran, Dr. Geoffrey Boyd, Dr. A. D. McKelvey, Professor Emeritus G. H. Burnham, Professor Emeritus N. A. Powell, Professor J. J. R. Macleod, formerly Associate Dean of this Faculty.

Professor Beemer gave many years of service as Extra-Mural Professor of Mental Diseases. His kindly manner and personal interest in individual students endeared him to all who came into contact with him. Dr. Maclellan was an excellent clinical teacher who gave freely of his experience to his students. He, too, will be greatly missed. Professor Gibb Wishart was for many years a most active and valuable member of the Faculty Council as well as a fine teacher. He was for some time Chairman of the Committee on Curriculum and Examinations. He was a leader in the medical profession, a man of sterling character. He will be sadly missed by a wide circle of friends and former students. Professor Alexander McPhedran, head of the Department of Medicine from 1900 to 1919, was a great physician and one of the most distinguished clinical teachers of his time. There can be little doubt that he exercised a greater influence than any other on the minds of the students of his day. He was clear, sharp and incisive. His clinical lectures were models of lucidity and comprehensiveness. His bedside clinics, too, were extraordinarily good. No former student of Professor McPhedran will ever cease to be grateful to him for the part he played in their professional training. This Faculty has lost one who shed much lustre upon it. His unswerving loyalty, high ideals and exacting demands, permitting of no compromise, exercised a profound influence for good during the early formative period of this Faculty. The present members of the Faculty of Medicine pay silent tribute to one of their former colleagues and leaders. Dr. Geoffrey Boyd, a former Associate Professor of Oto-Laryngology, was an excellent clinical teacher and one

of the leaders in his own field of clinical work. He was a man of lovable character, with a great capacity for friendship. His sudden death, at a comparatively early age, was a great shock to a very wide circle of friends and acquaintances. Dr. Alex McKelvey, who for a short time was a member of the same Department, was a splendid clinician who was, unfortunately, unable to continue as a clinical teacher because of a serious disability. He carried on a large practice for a number of years with great fortitude and courage. He was a man of fine character which endeared him to patients and colleagues. His early death is a great loss to the profession and the community. Professor G. H. Burnham and Professor N. A. Powell were among the early members of the Faculties of the old Trinity and Toronto Schools of Medicine, both well and favorably known to a long line of students. Professor Burnham was active in the practice of his profession until very shortly before his death. He retired from this Faculty a number of years ago. He served faithfully the best interests of the University. Professor N. A. Powell was an outstanding member of the profession. His teaching, both clinical and didactic, was coloured by a most engaging personality and he was exceedingly popular with his students. He was zealous in many good causes. For long he was a leader in the Academy of Medicine, Toronto; a pioneer in the fight against tuberculosis and a member of the Board of the National Tuberculosis Association. He lived to see many of the undertakings in which he was interested and to which he gave of his best, come to full fruition. He will be greatly missed by all who knew him.

Professor J. J. R. Macleod, formerly Professor of Physiology and for ten years Associate Dean of this Faculty, died suddenly and unexpectedly in Aberdeen in March last. During his Toronto period Professor Macleod gave unsparingly of his great ability and talents to this University, his colleagues, associates and students. He was devoted to the advancement of his own subject and at the same time was genuinely interested and active in promoting the welfare of the Faculty as a whole. No one during his time was more unselfish in efforts to improve the quality of the teaching, increase the



facilities of the various departments or to collaborate in the solution of faculty problems. His early death is deeply regretted and he is sincerely mourned by his former colleagues in this Faculty.

The following appointments and promotions were made in the Faculty of Medicine by the Board of Governors during 1934-1935:—

*Professor Andrew Hunter*—Professor of Pathological Chemistry and Research Member of Connaught Laboratories (part-time).

#### PROMOTIONS

*Professor Alan Brown*—Professor of Paediatrics.

*Professor Wm. A. Scott*—Head of Department of Obstetrics and Gynaecology.

*Dr. G. E. Richards*—Professor of Radiology.

*Dr. G. M. Biggs*—Associate Professor in Oto-Laryngology.

*Professor D. A. Irwin*—Associate Professor in Banting Medical Research.

*Dr. M. H. Brown*—Assistant Professor of Hygiene and Preventive Medicine.

*Dr. R. K. George*—Assistant Professor of Anatomy.

*Mr. C. C. Lucas*—Assistant Professor in Banting Medical Research.

*Dr. D. L. MacLean*—Assistant Professor of Physiological Hygiene.

*Dr. E. W. McHenry*—Assistant Professor of Physiological Hygiene.

*Dr. H. B. VanWyck*—Assistant Professor of Obstetrics and Gynaecology.

*Dr. E. T. Waters*—Assistant Professor of Physiology.

*Dr. C. B. Weld*—Assistant Professor of Physiology.

*Dr. A. A. Campbell*—Associate in Oto-Laryngology.

*Dr. E. A. Morgan*—Associate in Paediatrics.

*Dr. G. R. Pirie*—Associate in Paediatrics.

*Dr. H. J. Shields*—Associate in Anaesthesia.



# MEDALS, PRIZES, SCHOLARSHIPS AND FELLOWSHIPS

Awarded by the Senate of the University  
Faculty of Medicine  
JUNE 3, 1935

## SIXTH YEAR

The Faculty Gold Medal.....	F. H. Côté, B.A.
The Faculty Silver Medal.....	A. L. Chute, M.A.
The Ellen Mickle Fellowship.....	F. H. Côté, B.A.
The Chappell Prize in Clinical Surgery.....	F. H. Côté, B.A.
The William John Hendry Memorial Scholarship in Obstetrics and Gynaecology.....	F. H. Côté, B.A.
The Ontario Medical Association Prize in Preventive Medicine.....	F. H. Côté, B.A.
The David Dunlap Memorial Scholarship.....	P. B. Hamilton, B.A.
The Canadian Medical Institute Prize.....	C. E. Vaughan, with M. R. Caverhill, honourable mention

## UNDERGRADUATE

The David Dunlap Memorial Scholarships:	
(a) Fifth Year.....	I. M. Hilliard, B.A.
(b) Third Year.....	J. E. Howes
The Ronald S. Saddington Medal in Pathology.....	W. L. M. King
The Baptie Scholarship.....	J. C. Rathbun

## GRADUATE

The Reeve Prize	
C. E. Dolman, M.B., B.S. Lond., M.R.C.P. Lond., D.P.H. Lond.	
The Lister Prize in Surgery.....	R. C. Laird, B.A., M.D.
The Perry Goldsmith Prize in Oto-Laryngology....	H. H. Burnham, M.B.
The Starr Gold Medal.....	A. W. Ham, M.B.
The J. J. Mackenzie Fellowship in Pathology and Bacteriology.....	J. C. Paterson, M.D.

# REGISTRATION OF STUDENTS IN THE FACULTY OF MEDICINE

## SESSION 1935-1936

	Men	Women	Total
First Year.....	157	12	169
Second Year.....	150	9	159
Third Year.....	144	12	156
Fourth Year.....	117	9	126
Fifth Year.....	115	8	123
Sixth Year.....	124	9	133
D.P.H.....	10	0	10
B.Sc. (Med.).....	5	1	6
D.R.....	1	0	1
D.Psych.....	6	0	6
Post Graduate.....	62	6	68
	891	65	956

DEPARTMENT OF ANATOMY  
(Under the direction of Professor J. C. B. Grant)

There were working in the Department of Anatomy during the session 1934-35:

Medical Students:

Second Year.....137

Third Year.....129

Biological and Medical Sciences:

Third Year..... 34 (with second year medicine)

Fourth Year..... 14 (with third year medicine)

Honour Psychology students:

Third Year..... 6 (Neurology with third year medicine)

Dental Students:

Second Year..... 25

Post Graduate Students:

Embryology..... 1

Histology and Embryology..... 2

Gross Anatomy..... 3 (Occasional)

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Total.....351

Of these a number elected anatomical subjects as options as follows:

II Year Cytology..... 7 (Dr. Piersol)

III Year—Special Histology..... 31 (Dr. Ham)

III Year—Anthropology..... 11 (Dr. Cates)

V Year—Special Senses..... 4 (Dr. Linell)

Courses in Elementary Anatomy were given, as follows:

Graduate Nurses from School of	}	(Dr. George)
Nursing..... 18		
First Year in Occupational Therapy. 13		
First Year in Physiotherapy..... 14		
Second Year in Physiotherapy..... 5		

Physical Education:

Margaret Eaton School..... 20	}	(Miss McMurrich)
III Year Arts..... 1		

A course of eight lectures was given by Dr. Cates to 25 students of the College of Optometry.

The various lectures were duly delivered. The practical classes were conducted as prescribed in the calendar. The various written and practical examinations were held periodically as in former years. The junior tutorial classes in anatomy were made more personal this year, as the number of students attending a class was limited to fifteen. This necessitated a great deal of repetitive work.

The department continues to pay still more attention to surface anatomy; and last session two extra periods were devoted to this important practical aspect of the work.

The museum continues to grow in size and usefulness. The Library has been opened freely to students, for use as a reading room. The X-ray equipment is greatly improved, so that much more use can be made of it both for teaching and for research purposes.

Though it is an extraacademic matter it is nevertheless of interest to note that twenty undergraduates and graduates attended a review course conducted conjointly by the departments of Physiology and Anatomy during the month of September for those proposing to sit the primary examination of the Royal College of Physicians and Surgeons. Of these, 17 sat the examination and 13 of them passed in anatomy. Dr. Cates conducted the anatomical part of the course and did so with conspicuous success.

The Department is grateful to Professor E. A. Linell for conducting voluntarily and in a manner most acceptable to the students the course on the Anatomy of the Nervous System.

Twenty students of the Margaret Eaton School of Physical Education joined the class in anatomy given by Miss McMurich and were highly appreciative of her successful and untiring efforts to instruct them and to understand their point of view.

All members of the staff have worked faithfully and loyally and I owe them my sincere thanks. Again this year I have reason to be grateful to Professor C. H. Best for his great kindness in financing out of a fund within his keeping, the salary of a member of the staff.



## DEPARTMENT OF MEDICAL RESEARCH

*(Under the direction of Professor F. G. Banting)*

During the past year the majority of the members of this Department have been engaged in various aspects of the two problems, experimental tumor and experimental silicosis.

Dr. F. G. Banting and Miss S. Gairns have continued the study of resistance to Rous Sarcoma.

Dr. W. R. Franks and Miss A. J. Watt have used tissue culture methods in attacking the tumor problem. With Miss E. Batho, Dr. Franks has endeavoured to link a protein to certain carcinogenic ring compounds, in the hope that the combined substances would be antigenic.

Mr. L. D. Proctor has continued his investigation of methylglyoxal as a factor in lactate poisoning of tumor cells.

Mr. E. L. Outhouse has been endeavouring to separate the phosphoric esters of tumor tissue. In lymphosarcomas he found the phosphoric ester of an aminohexahydric alcohol. From other tumors two new compounds have been isolated.

Dr. D. A. Irwin spent nine months visiting laboratories in Europe. Since his return he has continued his work on silicosis.

Dr. J. Fallon has investigated the tissue reaction produced by the injection of finely particulate quartz from the time of injection up to periods of a year. He has studied various samples of sericite in a similar manner.

The biochemical aspect of the silicosis problem has been directed by Mr. C. C. Lucas since Dr. E. J. King left to take a position in the British Post Graduate Medical School in London. With Miss M. Dolan, Mr. Lucas has tested the solubility of quartz and certain silicates. They have worked on a micro-quantitative method for estimating aluminium in dust and tissue ash. Mr. Lucas, with Mr. K. Watson, has attempted to devise an analytical procedure for distinguishing between silica and silicates.

Dr. Franks and Miss Watt have continued their study of the changes that take place in monocytes following the ingestion of silica particles. With Miss Shaw, Dr. Franks investi-

gated the influence of silica sols on proteolytic and autolytic enzymes.

Dr. Franks and Mr. Proctor have completed the construction of a photoelectric dust estimating machine.

Dr. G. H. Ettinger and Mr. G. E. Hall have continued their studies of the effect of long-continued administration of acetylcholine on the circulatory system. Various problems have arisen from this work and these are being investigated.

Dr. Ettinger, with the assistance of Mr. F. L. Lawson, studied the effect of repeated injections of histamine on the circulatory system of the dog. Miss J. Lang studied the biochemical effect of the histamine injections in these experiments.

Dr. Ettinger and Dr. Banting have been investigating the effect of repeated and long-continued vagal stimulation on the heart of the dog.

Mr. Hall has continued his investigation of the possible relationship between peptic ulcer and the chemical products of autonomic nerve stimulation. He has also studied certain aspects of the effects of damage of the hypothalamus in the cat.

Mr. C. C. Lucas is studying one component of the neutral sulphur fraction in normal human urine.

Mr. Lucas has collaborated with Dr. J. R. Ross, of the Hospital for Sick Children, in the development of a new method for the quantitative estimation of lead in urine.

Dr. A. R. Armstrong has succeeded in eliminating many impurities in phosphatase and has been able to prepare a highly concentrated product.

Dr. Armstrong and Dr. Banting have studied the blood phosphatase in dogs after the extirpation of various organs.

Mr. F. H. Lawford has synthesized a series of aromatic esters of phosphoric acid which are now being examined. The influence of structure on physical and chemical constants and the relative rates of hydrolysis by the enzyme phosphatase are being determined.

Dr. G. H. Ettinger, who has been on leave of absence from the Department of Physiology, Queen's University, has spent two years with the Department of Medical Research. He has been a great asset to the Department and his return to Queen's



will be a great loss. We would like to thank Queen's University for allowing Dr. Ettinger to remain with us for two years and assure them that his assistance has been greatly appreciated.

The Department has had the continued co-operation and assistance of Professor W. R. Graham of the Poultry Husbandry Department of the Ontario Agricultural College.

The Ontario Mining Association has generously contributed the sum of \$20,000 for the continuance of the work on the problem of experimental silicosis. The Department is most grateful to them for their co-operation and financial assistance.

The Department of Medical Research would like to express their appreciation to the Superintendent and the Bursar of the University. The co-operation and efficiency of their staffs has greatly facilitated the work of the Department.

## DEPARTMENT OF BIOCHEMISTRY

*(Under the direction of Professor H. Wasteneys)*

There have been no changes in the organization of the department during the year and no changes in the senior members of the staff. One of our teaching fellows, Mr. Bradley Pett, was awarded an 1851 Research Scholarship and spent the winter in the laboratory of Professor Euler of Stockholm. Mr. Louis Farber was appointed to replace him.

The total number of students registered in the department during the session 1934-35 was 331. This number was made up of 132 medical students, 34 students in the B. & M. course, 9 Chemistry, 4 P. & B., 10 Biology, 48 Household Economics, 13 Household Science, 1 General, 42 Dentistry, 2 occasional, and 37 graduates. Of the graduate students, 23 were candidates for the Ph.D. degree, 8 for the M.A., 1 for the M.S.Agric., 1 B.Sc. (Dent.), 1 B.Sc. (Forestry), 1 M.A.Sc., and 1 M.V.Sc. Seventeen were taking biochemistry as a minor for degrees in other departments, 1 was taking biochemistry as a prerequisite to another graduate course, and 13 students have taken work as a major or a minor in zymology.



As proposed in last year's report, the laboratory course for undergraduates was considerably revised to provide more training in quantitative methods. Similarly, in the advanced course, quantitative work was more emphasized than formerly in order to give students increased opportunity for training in the chemical identification of biological material, so that they may with more confidence engage in the type of research required by modern development in the field of biochemistry.

It is of great interest to this department that the Faculties of Arts and Medicine have decided to add a year to the course in the Biological and Medical sciences. The opportunity for a sounder foundation in fundamental science which the new curriculum affords should greatly increase the possibility of providing a more thorough training in biological science before the student is transferred to the purely medical portion of his combined course. The effect of this change on the advanced work possible in biochemistry by these students is eagerly anticipated.

## DEPARTMENT OF HISTORY OF MEDICINE

*(Under the direction of Professor J. H. Elliott)*

The course of lectures laid down in the curriculum of last year was given. These were illustrated by lantern slides, and by exhibits of books recording important contributions to the progress of medicine. There is a gratifying increase in the interest in this subject shown from year to year by the student body.

In addition to the lectures as prescribed in the curriculum, I think it desirable that some attempt be made to carry on seminars with groups of ten to fifteen students. In these smaller classes the students will have an opportunity to become acquainted with important texts in medicine, receive instruction in the bibliography and reference work, and be taught how to use a library.

I would like to see a room set apart in the University—and it should be in the Library—for the purpose of teaching and illustrating History of Medicine to small groups of students.

# DEPARTMENT OF HYGIENE AND PREVENTIVE MEDICINE

INCLUDING SUB-DEPARTMENT OF CHEMISTRY IN RELATION TO  
HYGIENE

*(Under the direction of Professor J. G. FitzGerald)*

The enrolment of graduate students in the course leading to the Diploma in Public Health for the session 1934-35 numbered twelve. The following provinces were represented: Ontario, Manitoba, Alberta, New Brunswick, British Columbia. Nine students were on fellowship, four Rockefeller Foundation, four Connaught Laboratories, and one School of Hygiene.

Since the opening of the School of Hygiene in 1927, eighty-seven students have completed their studies for the Diploma in Public Health. A total of one hundred and thirty-seven students have been enrolled since the course was first offered by the Faculty of Medicine in 1911.

Four additional graduate students completed the course in bacteriology and immunology and one immunology only. These students represented the following departments: Biology, Botany, Medical Research, Biochemistry. Past experience has emphasized the desirability of having graduate students of other departments and with broad biological training attend the course.

The course in infection and immunity under the direction of Dr. F. H. Fraser and offered to the students registered in the School of Nursing has been materially modified and improved during the past five years. In the practical exercises emphasis is laid upon the fundamental conceptions of sterilization, modes of infection, and mechanism of resistance to disease.

In the sub-department of Chemistry in relation to Hygiene under the direction of Dr. P. J. Moloney, Dr. E. M. Taylor has developed a new medium for the production of diphtheria toxin. This work will be the subject of a publication shortly to appear in the *Annales Pasteur*. Dr. M. D. Smith has continued her studies on the detoxifying action of various organic



substances on diphtheria toxin. Dr. Moloney and Mr. Orr have continued their studies in the preparation and antigen properties of diphtheria toxoids. An account of these problems and the various researches pursued by other members of the teaching staff will be presented in the Report of the Director of the Connaught Laboratories.

Dr. J. S. Kitching, who holds the second appointment as fellow in Hygiene and Preventive Medicine, has been working under Dr. C. E. Dolman and has devoted his time exclusively to problems of staphylococcus toxin, toxoid and antitoxin. A publication dealing with this subject will shortly appear in the *British Journal of Pathology and Bacteriology*.

The usual instruction in Preventive Medicine has been given to students of the fifth year in medicine. Lecture and laboratory courses were given to students of the School of Nursing, and lecture courses to students of the Faculty of Household Science and the Faculty of Arts.

The Department of Health, Ontario, and the Department of Public Health, Toronto, have, as in previous years, given generous assistance both in time and personnel and have by this co-operation greatly contributed to the success of the field course.

The enrolment for the session has been as follows:

Graduate.....	18
Faculty of Medicine, Fifth Year.....	131
Faculty of Household Science, Third and Fourth Years	21
Faculty of Arts, Third Year.....	48
Department of University Extension.....	31
School of Nursing.....	47

DEPARTMENT OF MEDICINE

(Under the direction of Professor Duncan Graham)

During the past year a member of the staff of the Department of Medicine has been appointed Head of the Department of Therapeutics. This appointment has made possible the inauguration of a combined course of instruction in Medicine and Therapeutics which should be of advantage to both



students and teachers. No other changes have been made in the general plan of organization of the department.

It is with deep regret that the Department of Medicine records the death on December nineteenth, 1934, of Dr. Alexander McPhedran, Emeritus Professor of Medicine. His remembrance will live among his former students because of the strength of his teaching and his character.

Dr. R. F. Farquharson has been promoted to the rank of Assistant Professor of Medicine and appointed Head of the Department of Therapeutics. Dr. J. A. Dauphinee and Dr. H. E. Rykert have joined the staff of the department as full-time junior demonstrators. Last year Dr. Dauphinee was the holder of the George Brown Memorial Scholarship in Medical Science, and Dr. Rykert the holder of the Alexander McPhedran Fellowship in Clinical Medicine. Dr. George McVicar, formerly of the Department of Biochemistry, has been appointed a Research Fellow in Medicine.

Dr. Warner is continuing his clinical and experimental investigations on bronchiectasis. He has published a valuable report on an uncommon type of bronchiectasis which he has termed "massive atelectatic bronchiectasis".

Dr. Cleghorn is making definite progress in his work on the assay of extracts of the adrenal cortex. The Connaught Laboratories have again very kindly offered facilities for the preparation of the extracts, and Dr. E. W. McHenry of the Department of Physiological Hygiene has given very generously of his advice and assistance in this work. Supplies of suprarenal glands have been provided again this year through the generosity of J. S. McLean, Esq.

Dr. Cleghorn and Dr. McVicar have been investigating the influence of diet on the survival of adrenalectomized rats. They have found that the nature of the diet has a profound influence on the survival of adrenalectomized rats. They are also studying the vascular reflexes and sympathin production in adrenalectomized animals. A study of the phospholipins in relation to the adrenal cortex is in progress. They have made sodium and potassium balance studies on a number of cases of Addison's disease. The choline esterase content of the blood serum in cases of myasthenia gravis has been estimated.

Dr. Hyland is continuing his observations on cases of myasthenia gravis treated by glycine and ephedrine. He has published a report on twelve cases of subarachnoid haemorrhage.

Dr. Oille and Dr. Rykert have published a valuable report of their observations on cases of coronary disease.

Dr. Hepburn has published a preliminary report on the effect of total ablation of the thyroid gland on patients with angina pectoris and congestive heart failure.

Dr. Wrong is continuing his investigation on "poison ivy". He has published a report on the "Patch Test" as an aid in the diagnosis of eczema.

Definite progress is being made in the investigation of other clinical problems, some of which have been referred to in previous reports.

## DEPARTMENT OF PAEDIATRICS

*(Under the direction of Professor Alan Brown)*

Working in association with the Department of Pharmacology and the Banting and Best Department of Medical Research, further studies have been made on the important subject of the prevention of poisoning in children. Recommendations have been made to prohibit the use of certain pharmaceutical products which have been found to be the cause of the death of many Canadian children each year.

Observations have been continued on children suffering from nephritis and it has been found that a number of these patients have an underlying anatomical defect. Some of these defects lend themselves to surgical correction. Further progress is being made in the study of various chest conditions in children from the standpoint of their treatment and prevention.

In conjunction with the Connaught Laboratories an extensive survey has been made on children suffering from meningococcic meningitis from the standpoint not only of treatment and prevention but from the standpoint of the epidemiology. The work on the development of an effective whooping-cough



vaccine and also the use of placental extracts in the prevention of measles is progressing with satisfactory results.

The joint effort with the Department of Physiology on an investigation of the effect of dietary deficiencies in early life on learning ability is being continued.

Studies have been made on the iron requirements of children and the availability of iron in foods. It has been found that only a portion of the total iron in food is available for the iron nutrition of children. This is a very important observation and our present conception of iron metabolism will probably have to be changed.

Interesting studies have been made on the effect of a low mineral intake on intestinal stasis. During the past year it has been found that a diet low in calcium and potassium results in marked stasis in the appendix. Further studies are being conducted on this aspect of the work which may give results of considerable practical value.

Nutritional studies are being continued and information is being obtained which indicates very definitely that diets which we have considered adequate are still not optimal and that simple changes may be made which will do much to increase the health of the children of Canada.

## DEPARTMENT OF OBSTETRICS AND GYNAECOLOGY

*(Under the direction of Professor W. B. Hendry)*

The work of the department has been carried out in accordance with the course laid down in the Calendar.

Further investigations are being carried out by Drs. VanWyck and Mann in connection with the toxaemias of pregnancy.

Dr. Mann has completed his work in connection with the application of the principle of a mechanical device known as a split universal joint to a new obstetrical forceps.

Dr. Henderson has completed his investigation into the value of vitamins in lowering the incidence of puerperal infection. He is also carrying out an investigation into the

value of certain sex hormones in the treatment of menorrhagia and dysmenorrhoea.

Dr. Goodwin is completing an exhaustive study of the changes in the pelvic tilt during pregnancy. In conjunction with Dr. Mann he is also investigating the value of certain forms of hydro-therapeusis in the treatment of pelvic inflammation.

In collaboration with the Department of Radiology, Dr. Cosbie has been making a radiographic study of the measurements of the pelvis in relation to the foetal head, and has also been investigating the value of thorotrast as a contrast medium, as an aid to diagnosis of certain obstetrical conditions.

The department has also co-operated with the departments of urology and radiology in a study of the physiological changes which occur in the ureters during pregnancy.

Drs. Scott, Cosbie and Watt, in collaboration with the Institute of Radium Therapy, have been carrying out some valuable work in connection with the treatment of carcinoma of the genital tract.

## DEPARTMENT OF OPHTHALMOLOGY

*(Under the direction of Professor W. H. Lowry)*

There has been an increase in the number of specimens received for section from Toronto and from all over Ontario. One hundred and eight specimens were received and of these eleven were melanotic sarcomas and three neuroblastomas of the retina. In connection with these fourteen specimens alone, over fifteen hundred sections were made, which shows the amount of work entailed to make a diagnosis. The question of making a charge for this work on the specimens from sources other than our own hospital has been considered, but no action has been taken as we would not wish to discourage physicians in any way, from sending the specimens, as the material is frequently very valuable and instructive.

Dr. Johnston is assisting Dr. MacDonald in the laboratory and is being trained to carry on the work. We are endeavouring to have as many as possible of the junior surgeons do the



work as it will improve the standard of the Ophthalmological Staff generally.

Dr. Morgan is experimenting on the transplantation of corneas from one animal to another as is being done in a few centres. If the technique can be perfected a lot of persons, who are now nearly blind from corneal scars, will be helped considerably. In England and on the Continent successful cases have been reported in which blind persons have been made to see well enough to make them independent. So far Dr. Morgan has been working on the corneas of rabbits and moderate success has been obtained. Within a year, however, we hope that we may be able to report the results of work done on the human eye.

The students who graduated this year showed considerable interest in their lectures and clinics and their experience and training obtained should make them excellent practitioners.

The Staff have worked harmoniously and have given their usual conscientious service.

## DEPARTMENT OF OTO-LARYNGOLOGY

*(Under the direction of Professor P. G. Goldsmith)*

The work of the Department of Oto-Laryngology for the past year has, in the clinical department, been carried out with considerable difficulty owing to the construction of the new Out-Patient's Department. The didactic lectures were, however, carried on without interruption, but I wish again to point out the time allowed for lectures is not sufficient, having regard to the importance of the subject both in preventive medicine and the general ailments of the public at large.

The new Out-Patient's Department has now been completed, and I have no hesitancy in saying there is none superior on the Continent. Especially is it well equipped for undergraduate teaching.

The work in the Pathological Laboratory has increased very greatly, and there are now three active workers in Dr. McGregor, Dr. Ireland, and Dr. McLeod, the two latter being full or part-time workers. During the past year an exhibition

of pathological and anatomical work was made during a week's meeting of four International Oto-Laryngological Societies. This exhibition was very highly commended by leading Oto-Laryngologists of the continent.

I again wish to emphasize the type of teaching being done in the Oto-Laryngological department. The Staff is large, probably too large, but quite capable of giving sound instruction to undergraduates. The teaching is not in any way post-graduate instruction, for which no provision is made. Only those complaints and ailments ordinarily found among the general population are discussed. No attempt is made to teach operative surgery of the Ear, Nose, and Throat beyond what might be termed emergency work. A strong effort is made to keep general medicine and Oto-Laryngology more intimately connected. The future success of Oto-Laryngology to my mind depends largely on this intimacy.

## DEPARTMENT OF PATHOLOGY AND BACTERIOLOGY

*(Under the direction of Professor Oskar Klotz)*

The Department of Pathology and Bacteriology has had a very satisfactory year. The teaching, which has naturally taken the greatest amount of time and effort, is still handicapped by large classes with a relatively small personnel.

The introduction of the student in the Third Year to the broad subject of disease puts a strain on the time available for the lectures in bacteriology as associated with the practical work. It would be advisable and would increase the practical value of this course if a series of lectures and demonstrations on applied bacteriology were given in one of the later years after the student has had some contact with the clinic and that an introductory course of lectures precede the present course.

The method of presenting the gross material as correlated with the microscopic study has been working very well in the Fourth Year. The present course is as satisfactory as we can expect with such large classes in which individual contact with each student is difficult. In the Fifth Year special pathology has become one of the important subjects, the co-operation



between our Staff and the Clinic being most valuable and greatly appreciated. The Sixth Year conferences in which selected topics are given by members of the various departments from a number of viewpoints, including anatomy, physiology, bacteriology, pathology, surgery and medicine, are well attended, the students taking an active part in the discussions and thereby deriving great benefit from this broad approach to the problems presented. Here again we are indebted to the members of the other departments for their happy co-operation in making these conferences such a success.

The services in the routine laboratories in connection with the Toronto General Hospital are steadily growing. The work in bacteriology has increased about fourteen per cent. and in surgical pathology almost twenty-five per cent.—this latter is partly accounted for by the greater demands from the Radiological Institute.

The Division of Neuropathology under Dr. E. A. Linell is rapidly progressing, the amount of material received and examined in detail showing a steady increase and numerous valuable specimens have been added to the museum. Dr. K. G. McKenzie and Dr. H. H. Hyland continue their full co-operation in the study of material received from the surgical and medical wards of the Toronto General Hospital. Cases sent into the division from outside sources increase in numbers, and the co-operation and interest shown are very gratifying. Increasing interest is being shown in the weekly clinical discussions of neurological material. A close alliance with the Ontario Department of Health is shown by the appointment of Dr. Linell as Consulting Neuropathologist to the Mental Hospitals of Ontario.

The autopsy division continues its activity, giving most valuable services towards the clarifying of clinical problems and providing the basic material so essential for teaching purposes. Twice a week a conference is held by Dr. Klotz, at which the autopsy material is carefully reviewed and correlated with the clinical history. While these conferences are primarily for the benefit of our own Staff, the clinicians are welcomed and encouraged to take part in the discussion.

The museum since its organization on the unit system has continued as practically ideal for teaching and has served as a model for many other institutions.

The custom of giving students the opportunity of enlarging their experience by joining the department as voluntary assistants during the summer months has proved of striking benefit.

The Monday evening meetings of the members of the Staff at three-week intervals throughout the academic year have been very well attended. They have given opportunities to the members of the department for reporting progress in the various investigations. The whole Staff takes part in the criticism and discussion and they have been most stimulating to all and are particularly valuable for the younger members.

Dr. Oskar Klotz attended the meeting of the International Association for Geographical Pathology in Utrecht in July, 1934, being one of the two representatives from Canada. The subject matter of the Congress was "Arteriosclerosis", and he presented the experimental aspects of the topic. He is, this year, President of the Academy of Medicine, Toronto; President of the Society for Experimental Pathology; has been appointed a member of the Cancer Committee of the Ontario Government, and is Chairman of the Sub-committee on Cancer Research. He was elected a Councillor of the Royal Canadian Institute and the American Association of the History of Medicine. He still maintains his interest in yellow fever and receives specimens of this disease from various parts of the world.

Dr. P. H. Greey, in charge of the diagnostic clinic in bacteriology, is continuing his work on human actinomycosis and is also making a comparative study of the bovine disease. Dr. R. Margarine Price, who has done such valuable work on tubercle bacilli in human tuberculosis, spent some months in Great Britain during the last year, and came in close contact with the work being done there.

A number of studies by members of the Staff have been completed; others are still being investigated. Dr. W. L. Holman compiled a useful review of Studies on Staphylococci and with Miss Arline E. Carson published a paper on Technical



Errors in Studies of Bacterial Variation. Dr. E. J. Clifford's bacteriological study of the faecal flora from clinical cases is continuing. Dr. K. A. Roberts has extended his investigation of fibrinolysis by human haemolytic streptococci to the presence of an anti-fibrinolytic substance in the plasma of convalescent cases. E. W. Bond completed the work on his thesis, "Morphology in Cultures of Tubercle Bacilli", for the degree of D.V.Sc. Dr. R. W. Graham, a voluntary assistant in bacteriology, carried out a useful study of pneumococcaemia in pneumonia patients, for which he received the degree of B.Sc.(Med.). The same degree was earned by Dr. J. C. Richardson, who submitted a thesis on "Cerebral Arteriosclerosis", and by Dr. J. F. Roberts, whose study was on the subject of "The Early Phases of Thrombosis in Vessels". Dr. T. H. Belt has contributed a valuable review on the Pathology of Pneumoconiosis. Dr. G. H. Fetterman has a paper in the press on "A Study of the Vascular Lesions in Surgically Excised Stomachs". Co-operation with Mr. H. E. LeMasurier, of the Department of Anatomy, has resulted in the perfecting of a staining technique, which is proving its value, particularly in the study of brain tumors, a description of which by Mr. LeMasurier will appear in the Archives of Neurology and Psychiatry. Miss H. P. Tett received her M.A. degree while working as a technician in the Division of Neuropathology, having completed an investigation of the sensory end-organs of arterial walls. Dr. Mary I. Tom is engaged in research investigation into (1) Histological changes accompanying cerebral softening, and (2) Senile degenerative changes in the cerebral cortex. Dr. William Keith is investigating peripheral nerve degeneration. Special studies are being continued on problems of gastric and duodenal ulcers, arteriosclerosis and tuberculosis.

## DEPARTMENT OF PATHOLOGICAL CHEMISTRY

The Department suffered a great loss at the beginning of the year in the death of Professor V. J. Harding; a loss which has been felt by all members of the Department throughout the present session.

A large part of the research work this session has been concerned with the application and extension of the system of sugar analysis devised by Harding and Nicholson. A method for the analysis of mannose by the use of the micro-organism *Gaffkya tetragena* has been developed, thus completing the system of analysis as far as the more commonly occurring sugars are concerned. The use of micro-organisms has also been extended to the analysis of hexose-phosphates and a relatively rapid method for the quantitative analysis of these substances in muscle filtrates has been evolved.

Dr. D. L. Selby and Mr. J. B. Scott have been continuing the investigation of the use of xylose as a test substance for determining kidney function particularly in relation to pathological cases.

Dr. R. M. Archibald has completed the studies begun last year on the nature of the non-fermentable carbohydrates of normal urine.

Mr. S. H. Jackson has been associated in an investigation into the relationship between carbohydrate metabolism and infection with staphylococcus, which is being carried out in collaboration with Professor W. L. Holman of the Department of Pathology and Bacteriology.

Dr. R. W. I. Urquhart (in collaboration with Dr. J. L. McCollum of the Department of Surgery) has continued the work of kidney function tests in the field of genito-urinary surgery. Dr. Urquhart has also been assisting in experimental studies designed to explain some of the apparent anomalies of kidney function occurring in certain pathological conditions.

## DEPARTMENT OF PHARMACOLOGY

*(Under the direction of Professor V. E. Henderson)*

The teaching in this Department during the past year has been very satisfactory. This is largely due to the fact that the Staff was the same as it has been for the past three years, and in consequence all its members were thoroughly aware of the important points and principles which we wish the students to acquire.

The Staff has been very actively engaged in research, and



though the publications appearing during the year are not numerous, this is largely due to the fact that several papers are in hand which have not yet been published. Dr. Roepke and myself have continued our studies on acetylcholine, particularly in regard to its action on the urinary bladder, and a paper has gone to press dealing with this work. Dr. Welch completed his study of certain rare alkaloids isolated by the National Research Laboratory in Ottawa, and papers dealing with this study have appeared. Also in conjunction with Dr. Heard who was working under the Banting Research Foundation in the Department of Biochemistry, a study was made of the stabilization of adrenaline as secreted from the adrenal gland by ascorbic acid and other substances. This work has revealed a very interesting example of the interrelations of the oxidation reduction mechanisms of the human body. This paper has recently appeared in the *Biochemical Journal*. Professor Lucas has continued his study of mucus secretions, and has devised the necessary apparatus to yield the information in regard to its stickiness and viscosity. Some of the properties of these interesting secretions are exceedingly difficult to evaluate in any ordinary physical terms. The physicists indeed do not seem to have encountered in their work substances with analogous properties, and in consequence a final paper dealing with the information acquired has been withheld until further studies could be made, though a preliminary report was given before the American Society for Pharmacology. Drs. Welch and Roepke have succeeded in synthesizing two analogues of choline, namely phosphocholine and arsenocholine, and have made a study of certain of their chemical properties and also a study of the quantitative differences in their reaction in body. The purpose of this study was to throw some light on the means by which these substances produced their reactions in the body and certain progress has been made. As a result, one paper has gone forward to the press and another will soon follow. Mr. A. H. R. Smith, working on a special scholarship, has studied some of the chemical means by which cyclopropane could be produced and in connection with this work has discovered one or two methods of theoretical interest. These studies, too, will form

the basis of papers in the near future. Though the number of papers published during the year is not great, a firm foundation has been laid for future communications.

## DEPARTMENT OF PHYSIOLOGY

*(Under the direction of Professor C. H. Best)*

The equipping of the preparation room which adjoins the south lecture room in the Medical Building has made possible more demonstrations to the Third Year medical students. The use of the south lecture room for these demonstrations, instead of the poorly ventilated room previously used, has been greatly appreciated by both the staff and the students.

A very considerable amount of time has been spent this year by Dr. N. B. Taylor and the head of the department in the preparation of a new text of applied physiology. The book, which is to be published in the late summer by the Williams and Wilkins Company, will be entitled "The Physiological Basis of Medical Practice". It is felt that the preparation of a book of this kind will result in improvement in the teaching of physiology to medical students in our own University at least.

The head of the department has been elected to the Council of the American Physiological Society. Researches carried out under his immediate direction have included (1) further work on choline as an accessory food factor (in collaboration with Miss M. E. Huntsman and Mr. R. A. Mustard). The evidence is now adequate to enable us to include choline in the list of accessory food factors or vitamins. (2) In collaboration with Dr. F. G. Young, the first Beit Memorial Research Fellow to be sent to work in Canada in the biological sciences, and Miss M. E. Huntsman, it has been shown that depancreatized dogs on a low choline diet rapidly develop extremely fatty livers, and that even in the absence of insulin, relatively little sugar is excreted. The researches on heparin in collaboration with Dr. Murray of the Department of Surgery and Mr. Jaques have given very promising results.

As stated above, Professor N. B. Taylor has been largely engaged in the preparation of the new text-book of applied



physiology, but under his direction, and with the collaboration of Dr. C. B. Weld, work has been continuing in several directions. An interesting study has been made of the mechanism by which ergotoxin produces a condition of rage in cats. With the assistance of Dr. J. R. F. Mills, further information has been gained relating peristalsis and mechanical distension as a cause of death in acute intestinal obstruction. With Mr. J. F. Sykes the condition of tolerance to parathormone and to irradiated ergosterol has been studied, and further information obtained relating the vitamin with the endocrine factors. With Dr. H. E. Woodward an improvement has been devised in the technique of determining blood volumes. The change in the blood volume, plasma fibrinogen, and in the suspension stability of red blood cells has been examined following various surgical operations and shock. Mr. J. F. Sykes has been determining the various fractions of calcium, including that absorbed by barium sulphate, in the serum of normal animals, after intravenous infusion of soluble calcium salts, and after administration of parathormone and of irradiated ergosterol.

Dr. Laurence Irving, now Professor of Experimental Biology, has been engaged in the following investigations in the Department of Physiology.

From the gill arches of the dogfish sensory impulses pass along the glossopharyngeal and vagus nerve branches when the blood pressure rises above the normal level. These nerves are embryologically homologous and physiologically similar to the important carotid sinus and cardiac depressor nerves in man. The results obtained in collaboration with Dr. D. Y. Solandt (and Mr. O. M. Solandt), who held the Collecting Net Fellowship at the Marine Biological Laboratory, Woods Hole, indicate the origin of an important element in the control of the blood pressure. The work was done at the Woods Hole Oceanographic Institute.

An investigation of the adjustments of seals to diving was carried on at the Atlantic Biological Station, St. Andrews, with aid from the Elizabeth Thomson Science Fund and the Medical Research Best Fund. The salt excretion, respiratory function of the blood, metabolism and control of respiration and circulation were studied. The results indicate the nature of

physiological adjustment to diving. They likewise reveal some important facts in the control of respiration and circulation. These controls are quite distinct in diving animals, and accentuate the physiological processes involved during asphyxia. This work was done by Professor Irving in collaboration with Mr. K. C. Fisher, Mr. O. M. Solandt, Dr. D. Y. Solandt, Miss Jeanne F. Manery and Mrs. M. S. Welch.

Investigation of the action of cyanide and carbon monoxide as respiratory poisons has been continued on the embryonic heart of fish by Mr. K. C. Fisher. The results throw light upon the metabolism of the heart, and in particular upon the susceptibility of the heart to asphyxia.

The investigation of the electrolyte balance in developing eggs and tissues has been delayed by the lack of a suitable method for estimating the total base. After two years' work the method is now reliable and can be used for many projected studies by Miss Manery and Dr. Irving.

Study of the oxidation processes in the liver by the Warburg technique has indicated that choline increases the oxygen consumption. The effect has been related to the fat content of the liver, and in conjunction with the other studies, the results characterize in another way the important influence of choline upon fat metabolism. Mrs. M. S. Welch, who has been largely responsible for this work, has been assisted by the Banting Research Foundation.

The enzyme carbonic anhydrase has been prepared and studied with a view to its essential relation to calcium carbonate formation, and hence to that of bone. This work, which is still preliminary, has been conducted by Miss K. M. Robertson (assisted by the Banting Research Foundation), under Dr. Irving's direction.

Dr. Irving will continue to work in marine physiology at Woods Hole as director of the course this summer.

Investigations on the metabolism of fructose in mammals have been continued by Dr. E. T. Waters and Miss J. P. Griffiths. They have confirmed the results of Mann and Bollman that fructose is almost as efficacious as glucose in maintaining the life of the liverless dog. Contrary to the findings of these workers it has also been shown that the same



conclusion applies to the completely eviscerated dog. It therefore appears that muscle tissue is able to utilize fructose. In the analytical procedures of these studies use has been made of the organism *Proteus vulgaris*, cultured for them by Dr. D. T. Fraser. Under suitable conditions these organisms completely remove glucose from solution, but are without effect on fructose. Some success has also been achieved in determining the mechanism of removal of glucose by this organism.

Dr. Waters and Miss Griffiths have not been able to repeat the experimental results of earlier workers who found that the sole product of hydrolysis of glycogen by glycerol extracts of muscle was a trisaccharide. Rather, a mixture of substances has been isolated. This mixture on further incubation with additional muscle extract is completely converted to glucose. No conclusive evidence of the formation of a trisaccharide has been obtained.

Dr. Waters has collaborated with Dr. Caulfeild and Dr. Brown in an investigation, the results of which have definitely established that a multiplicity of antigens is involved when patients are sensitized to ragweed pollen. A rough fractionation of a whole ragweed extract was made, and that these fractions contain different antigens has been demonstrated by the Prausnitz-Küstner reactions, using serum from ragweed sensitized individuals.

Dr. E. Rhoda Grant, who has been in receipt of a grant from the Banting Foundation, has studied the conditions under which lactate leads to glycogen formation in the liver of the cat. The following factors appear to have an influence on this process: (1) the initial level of liver glycogen, (2) the fat content of the liver, (3) the presence or absence of the spleen and (4) the administration of acetylcholine. More work is necessary to study the possible inter-relationships of these factors.

## DEPARTMENT OF PSYCHIATRY

*(Under the direction of Professor C. B. Farrar)*

The principal development during the year in psychiatric training has been the elaboration of the post-graduate course,

which has now been accepted by the Faculty as a regular study programme, and so listed in the calendar. During the year three physicians have enrolled for this work in addition to the group regularly assigned from the Provincial Service. Arrangements were completed for the registration of qualified physicians taking this course as graduate students in the University effective for the academic session, 1935-1936.

In the out-patient department intensive work in behaviour disorders of childhood is used in the teaching of both medical and nursing students in the University. The study of modifiability of schizoid trends in childhood and adolescence begun last year is being continued, and with increasing stress on the field of extramural psychiatry.

In the division of nursing there have been two developments. First, the affiliation of the second year class of the School of Nursing for a three months' period at the Toronto Psychiatric Hospital, during which they receive exclusively instruction by various members of the teaching staff in mental hygiene and psychiatric nursing. Second, at the request of the Centralized Lecture Committee for Students a co-ordinated course of twelve lectures and clinics was given for the first time to the combined second year classes of the training schools represented by this Committee.

A further development refers to occupational therapy. The consultant in occupational therapy in the Provincial Hospital Service, who has charge of this work at the Psychiatric Hospital, has been appointed to the teaching staff in the division of occupational therapy in the Department of University Extension. This work has been improved and extended and the mental hygiene aspects of all occupational therapy emphasized. Students taking this course serve two months as occupational therapy internes at the Psychiatric Hospital and other provincial institutions. A six months' post-graduate internship for further psychiatric or general hospital work has also been arranged.

In December, 1934, there was created by Order-in-Council a Board of Psychiatric Examiners, consisting of the heads of the Department of Psychiatry in the three provincial universities, whose duty it will be to pass upon all applicants for



appointment in the Provincial Hospital service. Passing an examination at the end of the required one year graduate course in psychiatry will in future be one of the requirements for appointment to permanent positions in the Provincial service.

## DEPARTMENT OF RADIOLOGY

*(Under the direction of Professor G. E. Richards)*

Our report of last year contained a brief description of the new Department at the Toronto General Hospital and of the Institute of Radiotherapy, which is an associated service and housed in the same building.

This work has been carried on with only one addition to the staff in the person of A. D. Irvine, B.A., M.D. The additional work entailed has to a considerable extent been offset by improved facilities and it has been found that the latter are quite adequate for the present and are working out to the satisfaction of the staff.

Temporary teaching quarters were established in the Dunlap Building during the session and lectures and demonstrations to the sixth year were given here.

An experiment was tried of giving preliminary lectures to the junior clinical year, but this was not a success and under present conditions is difficult to carry out. However, it seems desirable that some elementary knowledge of radiology be given the student very early in his clinical work and a further effort to find a solution to this problem should be made. With this exception the teaching to undergraduates has been carried on much along the lines of previous years, the method being chiefly lecture-demonstrations with frequent free discussions on interesting problems in diagnosis. This has been found to be the most suitable method of presenting the subject and it is planned to continue with as much amplification as the time allotted will permit. For the present the time seems sufficient.

One graduate student, Dr. A. V. Baldwin, completed the work leading to the Diploma in Radiology and was granted the diploma.

A number of papers and addresses were given during the year by various members of the staff.

There were no resignations and no deaths to record. With the addition of Dr. A. D. Irvine, the staff remains as previously recorded.

## DEPARTMENT OF SURGERY

*(Under the direction of Professor W. E. Gallie)*

I have much pleasure in reporting another year of satisfactory progress in this Department. Our students have, I believe, received good instruction and have demonstrated in their practical and written examinations a fair knowledge of the principles of Surgery.

The chief place in which improvement may be made is in the final year. When the course was lengthened to six years, it was intended that the final year should be spent very largely in practical, clinical work and that it should be made to resemble somewhat an interne year. As far as Surgery is concerned, this has never happened as there has always been a prejudice in the hospital against allowing students to undertake work involving responsibility, such as taking the histories and making the physical examinations which are to form the basis of the hospital records. It has gradually been impressed upon us, however, that unless the student is made a part of the hospital organization, the same as an interne, he never, except in exceptional cases, takes a serious interest in practical, clinical work. The result is that he graduates with a wealth of laboratory and text-book knowledge but very little real clinical knowledge such as he acquires with great speed if he is fortunate enough later to be appointed to an internship.

The remedy is not quite clear and opinions differ widely on the matter. There are those who think, for instance, that it would improve matters if the final year were cut off the curriculum altogether and replaced by an enforced interne year. Again, we might adopt the English system in which certain bright students, particularly interested in surgery, are appointed as "dressers" for a period of months and the others allowed to shift for themselves. The third plan and the one which we propose to try out, for a year or two, involves taking the students into the hospital organization as completely as is



possible without having them live in, and turning over to them the duties of the junior internes.

Since last year the sub-department of Urology has been greatly improved by the new facilities provided at the Toronto General Hospital. This service now has fifty beds which are practically always full and the out-patient service is correspondingly large. This wealth of clinical material provides much improved opportunity to our students in the study of this branch of surgery.

The sub-department of Neuro-surgery continues to expand under the direction of Dr. K. G. McKenzie, and the time has now arrived at which more staff assistance is required. To provide this, Dr. E. H. Botterell, recently Resident in Surgery at the General Hospital, is being trained at Queen's Square Hospital, London, England. From there he will go to Yale, where he will spend a year in the new department of Neuro-physiology and then will return to Toronto to act as assistant to Dr. McKenzie.

The relations of the Department of Surgery with the Institute of Radiology have been very satisfactory. The surgical representatives on the staff of the Institute, Drs. R. Pearse, H. W. Wookey, R. I. Harris, R. M. Janes and W. K. Welsh, have had an excellent opportunity to observe the effect of radium and X-ray in the treatment of malignancy and to form an opinion as to when radiotherapy can be expected to be of value. The plan of organization which provides that decisions on treatment shall be made by the expert in radiology and by the clinical specialist seems to me to have overcome the difficulties that have so often wrecked similar experiments.

Some years ago a course of study leading to the Degree of Master of Surgery was established in this University and all senior surgical internes at the General Hospital were required to register in the course. After a trial of several years, however, we have had to modify this plan as it has been found that the internes, owing to pressure of work at the hospital, have been unable to take advantage of the opportunity provided by the Departments of Anatomy and Physiology to prepare for the primary examination. To get over this difficulty, we are now giving preference in the appointment of surgical in-

ternes to men who have already passed the "Primary" examination for the M.S. or for Fellowship in one of the Royal Colleges, and as a result almost all of our internes have obtained one of the diplomas before coming into Surgery. This plan will probably work out much to the advantage of internes and hospital, although it is unfortunate that candidates who have not taken the "Primary" examination while still undergraduates have to spend an extra year to pass it.

During the year some important progress has been made in problems of research. It is the policy of the department to try to interest the purely scientific departments in clinical problems and to obtain their skilled assistance whenever possible. In this relationship I have to thank all our sister departments for their sympathetic co-operation and particularly the Dean, Sir Frederick Banting and Doctors Best, Klotz, King, Linell, Dolman and Richards.

Dr. Gordon Murray, with the assistance and supervision of Professor Best, has continued the study of the application of the knowledge already acquired in regard to heparin, to clinical surgery. This problem is twofold: first, to find a means of preventing post-operative thrombosis and embolism; and, second, to eliminate the local tendency to thrombosis after operations on bloodvessels. They have now arrived at a stage where the experiment may be tried on patients.

Dr. Botterell and Dr. King, working in Sir Frederick Banting's laboratory, completed an important study of phosphatase in relation to fractures. Their work has recently been published in *The Lancet*.

Dr. Wm. S. Keith, in conjunction with Dr. J. Sullivan of the Department of Oto-Laryngology, working under the supervision of Dr. E. Linell, has undertaken a study of nerve regeneration. This work has been stimulated by the recent statements of Ballance and Duel that nerve suture is more likely to be successful if delayed until Wallerian degeneration has taken place in the distal portion of a cut nerve, and also that nerve grafts are more likely to "take" if made from degenerated nerves than from freshly cut nerves. These statements are so revolutionary that they require immediate investigation.

Dr. D. R. Mitchell is pursuing his study of the pathology



of prostatitis and with the assistance of Professor Klotz is making an excellent collection of pathological material.

Dr. Robert Laird completed a study of the implantation of sheets of fascia to replace the dura in operations on the brain. His thesis on the subject was accepted on his candidacy for the degree of Master of Surgery.

Dr. A. W. Farmer has continued his studies of the repair of tendon sheaths in injuries of the hand.

Dr. Stuart Gordon is still engaged in the study of gastric movements and has completed experiments which indicate the importance of the contraction of the muscularis mucosa.

The surgical laboratory recently established in the Banting Institute is now in working order and is proving of great assistance to the department in the preparation of pathological material, in photography and microphotography and in the preparation of lantern slides for teaching.

It is the policy of the department to encourage members of the staff to visit other clinics and hospitals both at home and abroad. This year ten of the younger surgeons have visited important surgical centres in Canada and the United States, and Dr. R. M. Janes visited the radium centres of England, Sweden and Denmark, for the purpose of studying the place of radiotherapy in the treatment of cancer of the breast. Dr. K. G. McKenzie is at present attending the meeting of the International Society of Neurology in London where he is reading a paper on his original idea of severing intracranially the vestibular portion of the eighth nerve for the relief of Menier's disease.

During the year important papers containing original contributions were read by Dr. D. E. Robertson and Dr. J. L. McDonald on sympathectomy; by Dr. R. I. Harris on the value of sympathectomy in stimulating the growth of paralyzed limbs; by Dr. H. W. Wookey on a method of excision of carcinoma of the pharynx; by Dr. R. R. Graham on gastric and duodenal ulcer, and by Dr. J. C. McClelland on a method of anchoring floating kidney by strips of fascia. The Head of the Department had the honour of delivering the Shattuck lecture on "Dislocations", in Boston.

The Department of Surgery acknowledges with thanks

important assistance from the Departments of Anatomy, Preventive Medicine, Medicine, Physiology, and Pathology.

## DEPARTMENT OF THERAPEUTICS

*(Under the direction of Professor R. F. Farquharson)*

The general organization of the course for undergraduate instruction in Therapeutics has been continued as in former years. In all the teaching, attention was constantly directed to the treatment of the patient as an individual suffering from ill health due to various causes, emphasis being placed on the importance of accurate recognition of the disturbances in the physiology of the body resulting from disease in different systems, and on the need for specific directions with regard to therapeutic measures.

It was possible to arrange the time-table so that the course of clinical lectures to the Fifth Year could be given to the whole class once a week throughout the year instead of repeating it every ten weeks for one-third of the class as in former years. In the first ten weeks, the technique of prescribing different types of treatment was discussed in practical detail. During the remainder of the year, treatment of patients suffering from different outstanding symptoms was discussed. In these clinical lectures emphasis was placed on the nature of the physiological disturbances, the need for accurate differential diagnosis from the point of view of therapeutics, and the importance of directing treatment to facilitate the disappearance of the actual cause of the complaint as well as to give symptomatic relief. Many of these lectures were given by members of the Staff in Medicine on subjects concerning which they had special knowledge.

In the Final Year, as formerly, clinical instruction was given to small groups with regard to special therapeutic procedures, including detailed nursing care and special management of patients suffering from different diseases. At all times the complete treatment of the patient was considered as well as the actual technique of any special measure being demonstrated. Through the co-operation of the Department of Paediatrics, each group was given five hours' instruction on



the wards of the Hospital for Sick Children. Each small group also spent one hour per week for five weeks in the Department of Physical Therapy of the Toronto General Hospital, where clinical instruction was given on the diagnosis and treatment of conditions that can be relieved by manipulation and physical therapy.

Throughout the whole course in Therapeutics much benefit was derived through the active co-operation and advice of the Staff of the Department of Medicine.

There is great need for careful investigation into problems of treatment of all kinds and it is hoped that funds and men may be made available for this purpose in future years.

#### *Sub-Department of Anaesthesia*

The organization and teaching of the Department of Anaesthesia, under the direction of Dr. S. Johnston, was continued as in former years.

#### *Sub-Department of Physical Therapy*

The teaching of Physical Therapy has been under the direction of Dr. W. J. Gardiner, Head of the Department of Physical Therapy of the Toronto General Hospital. The lecture courses in the Fifth and Sixth Years have been extended. Practical clinical instruction, as mentioned above, has also been given to small groups of the Final Year. As in former years, instruction has been given to students in the course in Physiotherapy of the Department of University Extension.

### ART SERVICE

*(Under the direction of Miss M. T. Wishart)*

The year has been a very busy one and we have been under steady pressure to keep abreast of the incoming work. It has also been a most satisfactory year, as we have accepted and completed with despatch a greater volume of work than heretofore.

The following are some of the more outstanding subjects consigned to the Art Service Department. These serve also

to illustrate the range of work the staff must be qualified to meet:—

Illustration for Dr. W. E. Gallie's paper on "Dislocations" for the Shattuck Lecture delivered in Boston on June 3rd.

Illustrations for Dr. H. Wookey's paper on "Modified Trotter Operation with Laryngectomy for Carcinoma of the Lower Pharynx and Upper End of the Oesophagus", read before the American Laryngological Society at their recent meeting held in Toronto.

Illustrations for Dr. A. B. LeMesurier's repair of the Cleft Palate. Article to be published in the *Canadian Medical Journal*.

Illustrations for Dr. J. C. McClelland's method of "Kidney Fixation with Fascia Lata". Paper read at the Ontario Medical Association meeting held recently in Fort William, Ontario.

Illustrations for Dr. J. L. McDonald's method of Rotation Osteotomy for publication.

Wax models of Recurrent Carcinoma following operation, and post-operative carcinoma followed by radiation. (Museum Surgical Anatomy.)

Wax models of Carcinoma of Larynx and post-operative result of Laryngectomy. (Museum Surgical Anatomy.)

Illustrations for Dr. J. A. Hannah in connection with his work on the Formation of Subdural Membranes in the Question of Subdural Haematoma.

Wax models of Xanthomatosis and Catarrhal Jaundice for Dr. R. F. Farquharson in connection with his work on "Liver and Biliary Tract Disease".

Illustrations for Dr. C. H. Best in connection with his work on "Effects of Choline on Liver Fat".

Experience is also bringing recognition of the Art Service as an integral part of the Faculty of Medicine, from medical circles outside Toronto. This is evidenced by a recent request from the Lahey Clinic, Boston, Mass., asking if the Art Service Department could undertake the preparation of some wax models of surgical procedures.



## *Summary of Work of Art Service*

### 1. According to medium of work:

1. Water-colour . . . . .	32
2. Half-tone . . . . .	1
3. Pen and ink . . . . .	62
4. Wax moulage . . . . .	12
5. Plaster models . . . . .	1
6. Line . . . . .	25
7. Sketches . . . . .	2

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Total . . . . . 135

### 2. According to departments:

1. Anatomy . . . . .	16
2. Hygiene . . . . .	2
3. Medicine . . . . .	11
4. Neuro-Pathology . . . . .	2
5. Obstetrics and Gynaecology . . . . .	5
6. Oto-Laryngology . . . . .	5
7. Pathology . . . . .	1
8. Physiology . . . . .	2
9. Surgery . . . . .	91

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Total . . . . . 135

### 3. Number of members of faculty for whom work was done . . 28

## REPORT OF THE MEDICAL SOCIETY

Honorary President . . . . .	Dean J. G. FitzGerald
Honorary Treasurer . . . . .	Sir Frederick Banting
President . . . . .	Roy G. Clark
Vice-President . . . . .	Frank P. McInnis
Secretary-Treasurer . . . . .	I. P. Speigel
Assistant Secretary-Treasurer . . . . .	J. H. Baillie

This has been a banner year for the Medical Society. Under the leadership of Roy Clark many useless expenditures have been curtailed.

For the first time, the women medical students were represented by their President, Miss Davis, who was a voting member of the Medical Society. This will shortly be made constitutional.

Professor W. E. Gallie and Doctor Lundy addressed two very successful open meetings.

A very comfortable donation was added to last year's subscription to the John Copp Memorial Fund.

The *Medical Journal* for the first time in years is on the blue side of the ledger. The reason for its success lies in the capable management of Paul Hamilton and Hugh Bright.

The Medical At-Home this year was a huge success. The price was lower this year in order partly to return to the students some of the surplus that had been accumulating.

This year no collections for things like Christmas gifts and flowers were taken. All such minor expenditures now and in the future are taken care of by the Medical Society.

Daffydil this year had the greatest success since its inauguration. Aisle seats were no longer obtainable two days before the performance. The Daffydill Committee is very much less in the red than it has ever been. This is due mostly to the clever management of Len "Williams" and "Ted" Dewar.

This year the Medical Society is trying out a new idea. The entire balance is being turned over to the Scholarship Committee, to be distributed in lots of one hundred dollars each, to needy and worthy students in the upper years. The credit for this scheme all goes to Jack Magladery, whose tireless efforts were responsible for its inauguration. If this meets with success, Medical Society Bursaries will be made constitutional.

With Frank McInnis at the head of next year's Medical Society, a very bright future can be prophesied.

MEDICAL ATHLETIC ASSOCIATION

Honorary President.....	Professor C. H. Best
President.....	E. L. Davey
Secretary-Treasurer.....	P. Gold



The purpose of the Medical Athletic Association has been to outfit and put on the field of play as many teams as we possibly could. Our object has been not merely to provide teams of championship calibre, but to get as many students as possible interested in athletics.

We have been primarily interested in those students taking part in inter-faculty athletics, yet it is an outstanding fact that medical students have played an integral part in all branches of intercollegiate sport as well as serving on the Athletic Directorate of the University of Toronto.

Junior and Senior teams were entered in the following inter-faculty sports: Rugby, Basket-ball, Hockey, Water Polo, Volley Ball. One team was entered in Baseball, Wrestling, Boxing, Fencing, Harrier, Gymnastics.

Practically all these teams were well to the fore in their respective leagues, but the Junior Rugby and Junior Basket-ball deserve special mention. Both entered the finals but were unfortunate enough to lose out by narrow margins.

The Medical "M's" or letters were granted as usual this year. Most of these went to men for their efforts on various medical teams for at least three years. Some, however, went to men who had distinguished themselves by winning the First "T" of the University.

This year medals were given to outstanding men in the annual Assault-at-Arms and to men who, although they had represented the University on various teams, had never received any official medical award.

### *Medical Women's Athletic Association*

The medical women who took part in athletics this year supported their teams very faithfully and put up a good fight in inter-faculty sports. The baseball team was composed chiefly of girls from the Public Health course, so it was decided that in future the sports would be limited to tennis, basket-ball, badminton and hockey.

## MEDICAL WOMEN'S UNDERGRADUATE ASSOCIATION

Honorary President.....	Dr. A. A. Curtin
President.....	Marjorie Davis
Vice-President.....	Margaret Harcourt
Secretary.....	Jessie McGeachy
Treasurer.....	Mary Albertson

A retrospect of the year reflects much of interest that has occurred in our annual activities.

The usual traditional highlights stand out. Initiation, with its good fun for all, introduced a large group of new students, who entered into the spirit of the performance in true sporting fashion. The At-Home, held at Newman Club, provided a charming afternoon for a gratifyingly large attendance of Faculty members and students. To the "Daffydil" performance the women are annually contributing bigger and better bits of "dramar". The "Daffydil" banquet for the women was highly successful. Guest speakers were Doctor J. A. Oille and Doctor Harold Ball. At the graduates' farewell party the fifth year excelled many previous achievements.

In addition, there are a few singularly bright spots in the year. The women particularly appreciate the enthusiasm and co-operation which Doctor Curtin has shown at all of our activities. Also they appreciate the interest of Doctor Blatz who devoted a delightful tea-hour to us one day in the fall when he explained the work of the Nursery School.

Altogether the year has been a happy and a successful one. The President took a lively interest in unifying the activities of the junior and senior girls. This organization exists as the result of a definite need in the lives of the women students, and its officers attempt to consolidate both professional and social contacts between members of the Faculty and of the student body.



